S.No: 43	Exp. Name: ***Write a C program to display the Fibonacci series up to the given number of terms using Recursion***	Date:2023-01-15

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Aim:

Write a program to display the `fibonacci series` up to the given number of terms using recursion process.

The fibonacci series is `0 1 1 2 3 5 8 13 21 34.....`.

At the time of execution, the program should print the message on the console as:

```
Enter value of n :
```

For example, if the user gives the **input** as:

```
Enter value of n : 6
```

then the program should **print** the result as:

```
The fibonacci series of 6 terms are :  0  1  1  2  3  5
```

Note: Write the recursive function **fib()** in `Program908a.c`.

Source Code:

Program908.c

```
#include <stdio.h>
#include "Program908a.c"
void main() {
   int n, i;
   printf("Enter value of n : ");
   scanf("%d", &n);
   printf("The fibonacci series of %d terms are : ", n);
   for (i = 0; i < n; i++) {
      printf(" %d ", fib(i));
   }
}
```

Program908a.c

```
int fib(int n);
int fib(int n)
{
   if(n == 0)
   return 0;
   else if( n == 1)
   return 1;
   else
   return (fib(n-1) + fib(n-2));
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter value of n : 4
The fibonacci series of 4 terms are : 0 1 1 2

Test Case - 2
User Output
Enter value of n : 8
The fibonacci series of 8 terms are : 0 1 1 2 3 5 8 13

Test Case - 3
User Output
Enter value of n : 14
The fibonacci series of 14 terms are : 0 1 1 2 3 5 8 13 21 34 55 89 14

Test Case - 4
User Output
Enter value of n : 3
The fibonacci series of 3 terms are : 0 1 1

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